



CURING LIGHT BUILT-IN C USER'S MANUAL

(Please read this manual before operating)



- Certified Management System
- EN ISO 9001
- EN ISO 13485

GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD.
www.glwoodpecker.com

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1. Installation

Guilin Woodpecker Medical Instrument Co., Ltd. is a high-tech enterprise in researching, developing, and producing dental equipment, and has a perfect quality assurance system, main products including ultrasonic piezo scaler, curing light, micro motor, apex locator and ultrasurgery etc.

2. Principle and usage

2.1 BUILT-IN C adopts the principle of ray radiation to solidify the light-sensitive resin by shooting at it in a short time.

2.2 This product is used to restore teeth and solidify material for whitening teeth.

3. Structure and components

BUILT-IN C is composed mainly of high power LED, optical fiber, main unit.

4. Technical specifications

4.1 Power supply: 24V~ 50/60Hz

4.2 Rated current: 0.3A

4.3 Applied part: optical fiber

4.4 Lightsource:

4.4.1 Blue light

4.4.2 Wave length: 420nm-480nm

4.4.3 Light intensity: 850mW/cm²~1000mW/cm²

4.5 Working condition:

4.5.1 Environment temperature: 5°C to 40°C

4.5.2 Relative humidity: ≤80%

4.6 Dimensions: Φ23mm×250mm

4.7 Net weight: 160g

4.8 Consumption power: ≤8W

4.9 Protection type against electrical shock: class II

4.10 Protection against electrical shock: type B

4.11 Protection against harmful ingress of water or particular matter: Ordinary equipment (IPX0)

4.12 Safety in the presence of flammable anesthetic mixture with air, oxygen or nitrous oxide: not suitable under this condition.

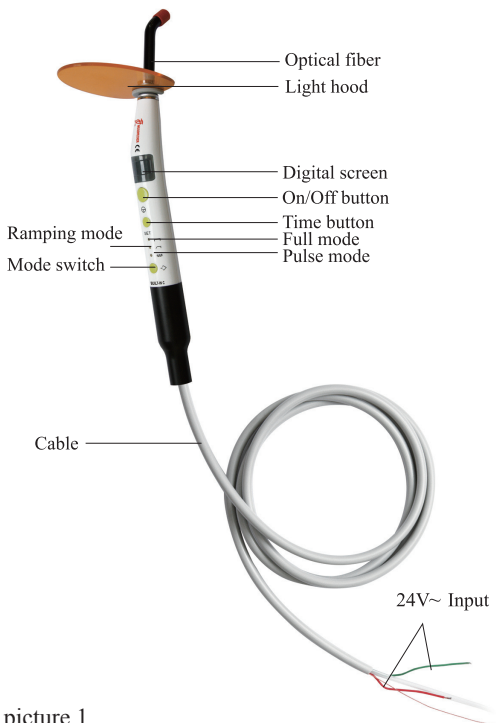
4.13 Applied part: optical fiber

Notice: the equipment needs to be installed in the medical power supply, and to ensure that the final product meets the requirements of IEC 60601-1.

5. Assembly and disassembly

5.1 Connect the power line which marked with 24V~ to the dental unit 24V~ output, lace the nylon thread to the dental unit, it's ready to be operated.

Caution: when assembling, the power of the dental unit should be cut off. The power line in the cable should be longer than the nylon thread, in case break the power line when operating.



picture 1

5.2 Take off the red cap from the optical fiber and then insert the metal part into the front of BUILT-IN C revolving, make sure to screw the fiber to the end.

5.3 To install the light hood on as show in picture 1.

5.4 Uninstall the LED, just reverse the procedure above.

6. Operation

6.1 Press the time button to choose the solidification time.4 working time modes are available: 5,10, 15, 20 seconds.

6.2 Lightly press the mode key. Following three modes are available.

6.2.1 Full power mode: blue light shine in full power.

6.2.2 Ramping mode: The power of the blue light turns from weak to stronger, and reaches the highest power in 5 seconds.

6.2.3 Pulse mode: blue light work in the mode of pulse.

6.3 During the operation, aim blue light at the position needing solidification. The machine will gives off a sound "di", when it is on. It is strong blue light after 2 seconds with week blue light. Then it counts down to "0" second to end the solidification.

6.4 After the operation, please clean the fiber with calico in order not to affect the light intensity.

6.5 The depth of solidification of composite is no less than 4mm

per 10 seconds.

6.6 The optical fiber can be spinned off by 360° and autoclaved to 135°C and 0.22MPa.

7. Cautions

7.1 When in clinical operation, make sure the light source be aimed at the resin directly improperly position will affect the solidification.

7.2 Avoid aiming at eyes directly.

① WARNING: If the curing light works for 40s continuously, the temperature of the top of optical fiber may reach 56°C.

② WARNING: Do not modify this equipment without authorization of the manufacturer.

8. Contraindications

Heart disease patients, pregnant women and children should be cautious to use this equipment.

9. Maintenance

9.1 Only the optical fiber can be autoclaved under high temperature and pressure, other parts should be wiped by clean water or disinfectants if necessary, never immersed.

9.2 After operation each time, clean the optical fiber.

10. After service

Two year warranty according to the warranty card.

11. Trouble shooting

Fault	Cause	Solution
Non-indication Non-act	1. The main unit doesn't connect well with the unit or the power doesn't on.	1. Check with the connection of the main unit and the unit. 2. Make sure the power is on.
Light intensity insufficient	1. The optical fiber is not inserted till the botton. 2. The optical fiber has cracked. 3. There is resin remained on the surface of optical fiber.	1. Insert the optical fiber again correctly. 2. Change the optical fiber. 3. Wipe off the resin.

If any malfunction case was found, please contact with the dealer the unit was purchased or our company.

12. Storage and transportation

12.1 This equipment should be handled carefully, kept away from shaking point, installed or stored at shadowy, dry, cool and

ventilated places.

12.2 Don't store it together with articles that are combustible, poisonous, caustic and explosive.

12.3 This equipment should be stored in the environment where the relative humidity is $\leq 80\%$, the atmosphere pressure is 70kPa to 106kPa and the temperature is -10°C to $+55^{\circ}\text{C}$.

12.4 Excess impact or shake should be avoided during transportation.

12.5 Don't mix it with dangerous articles during transportation.

12.6 Keep it away from sun or snow or rain during transportation.

13. Environmental protection

There is not any harmful element in this equipment. It can be disposed of according to the local laws.

14. Packing list

The components of the equipment are listed in the packing list.

15. Manufacturer's right

We reserve the rights to change the design of the equipment, the technique, fittings, the instruction manual and the content of the original packing list at any time without notice. If there are some

differences between blueprint and real equipment, take the real equipment as the norm.

16. For technical data, please contact



Wellkang Ltd (www.CE-Marking.eu)
29 Harley St., LONDON, W1G 9QR, UK

17. Symbol instruction



WOODPECKER Trademark



CE marked product



Type B applied part



FDA marked product

IPX0

Ordinary equipment



Class II equipment



Date of manufacture



Alternating current



Manufacturer



Recovery



Used indoor only



Keep dry



Screw inside/ outside



Handle with care



Temperature limitation



Humidity limitation



Atmospheric pressure for storage



Appliance compliance WEEE directive



Consult the accompanying documents



Authorised Representative in the EUROPEAN
COMMUNITY



- Certified Management System
- EN ISO 9001
- EN ISO 13485

Got the quality management system certification
and CE certification issued by TÜV Rheinland

18. Statement

All rights of modifying the product are reserved to the manufacturer without further notice. The pictures are only for reference. The final interpretation rights belong to GUILIN WOODPECKER MEDICAL INSTRUMENT CO., LTD. The industrial design, inner structure, etc, have claimed for several patents by WOODPECKER, any copy or fake product must take legal responsibilities.

19. Declaration of conformity

19.1 Product conforms to the following standards:

EN 60601-1:2006	EN 1041:2008
EN 60601-1-2:2007	EN ISO 14971:2009
EN 61000-3-2:2006	EN ISO 7405:2008
EN 61000-3-3:2008	EN ISO 17664:2004
EN 60601-1-4:1996	EN ISO 17665-1:2006
EN 60825-1:2007	EN ISO 10993-1:2009
EN 980:2008	EN ISO 10993-5:2009
ISO 9687:1993	EN ISO 10993-10:2010


19.2 EMC - Declaration of conformity

Guidance and manufacturer's declaration - electromagnetic emissions		
The model BUILT-IN C is intended for use in the electromagnetic environment specified below. The customer or the user of the model BUILT-IN C should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The model BUILT-IN C uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The model BUILT-IN C is suitable for used in domestic establishment and in establishment directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Not applicable	

Guidance & Declaration — electromagnetic immunity			
The model BUILT-IN C is intended for use in the electromagnetic environment specified below. The customer or the user of the model BUILT-IN C should assure that It is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	±2kV for power supply lines ±1 kV for Input/output lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV line to line ±2 kV line to earth	±2 kV line to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11.	<5 % U_T (>95% dip in U_T) for 0.5 cycle 40 % U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 sec	<5 % U_T (>95% dip in U_T) for 0.5 cycle 40 % U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95 % dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model BUILT-IN C requires continued operation during power mains interruptions, it is recommended that the model BUILT-IN C be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

Guidance & Declaration - Electromagnetic immunity

The model BUILT-IN C is intended for use in the electromagnetic environment specified below. The customer or the user of the model BUILT-IN C should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	3V 3 V/m	<p>Portable and mobile RF communications equipment should be used no closer to any part of the model BUILT-IN C, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.2 \times P^{1/2}$ $d = 1.2 \times P^{1/2} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.3 \times P^{1/2} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$ <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1 At 80 MHz end 800 MHz. the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the model BUILT-IN C is used exceeds the applicable RF compliance level above, the model BUILT-IN C should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model BUILT-IN C.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

**Recommended separation distances between
portable and mobile RF communications equipment and the model BUILT-IN C**

The model BUILT-IN C is intended for use in electromagnetic environment in which radiated RF disturbances is controlled. The customer or the user of the model BUILT-IN C can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model BUILT-IN C as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150kHz to 80MHz $d=1.2 \times P^{1/2}$	80MHz to 800MHz $d=1.2 \times P^{1/2}$	800MHz to 2,5GHz $d=2.3 \times P^{1/2}$
0,01	0.12	0.12	0.23
0,1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) accordable to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz. the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

The device has been tested and homologated in accordance with EN 60601-1-2 for EMC. This does not guarantee in any way that this device will not be effected by electromagnetic interference. Avoid using the device in high electromagnetic environment.

Scan and Login website
for more information



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